



KAY MARIOT

EUROPIUM

Element Symbol: **Eu**

Atomic Number: **63**

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Europium is named after the continent of Europe. Its discovery is credited to Eugène-Antole Demarçay, a French chemist, who separated it in reasonably pure form in 1901. Europium is not found in nature as a free element, however many minerals contain europium, with the most important source being monazite sand, a material rich in a number of rare earth elements.

Europium oxide (Eu_2O_3), one of europium's compounds, is widely used as a red phosphor in television sets. A phosphor is a material that gives off light when struck by electrons. The back of a television screen is coated with different kinds of phosphors. When those phosphors are struck by electrons inside the television tube, they give off different colours of light. Phosphors that contain europium give off red light when struck by electrons. Before this substance was found, the colour red was very hard to transmit clearly on a television screen. As a result all colours were muted to match the red colour that could be achieved.

Europium is used to dope some types of glass to make lasers.

Europium is also a very important component of many fluorescent immunoassays, which are chemical tests used to detect or quantify a specific substances in a blood or body fluid sample, using an immunological reaction.

Australian chemists researching europium compounds and their applications include Glen Deacon, Evan Moore and Bim Graham.

Provided by the element sponsor Bim Graham

ARTISTS DESCRIPTION

Europium is one of the elements used to make the red colour in televisions. The image of the television in this print depicts the link between the element and its everyday use. The particular television represented in this print is of an older style, reflecting my memory of the excitement of viewing our families' first colour television after initially owning only a black and white TV. I created this image by digitally colouring a monoprint.

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